

ANNUAL REPORT

TO THE

PUDSEY

Urban District Council,

FOR THE YEAR

1894,

BY

W. L. HUNTER,

B.A., M.D., Dub., D.P.H. Camb.

MEDICAL OFFICER OF HEALTH.

PUDSEY :

THOS. STILLINGS, PRINTER, "PUDSEY NEWS" OFFICE.

List of Members of the Sanitary Committee,
1895.

CHAIRMAN :

G. A. JONES.

THE CHAIRMAN OF THE COUNCIL :

S. MYERS.

R. V. BOWLING,

J. E. GOODALL,

H. HODGSON,

J. HUGGAN,

W. B. POTTS,

J. WOMERSLEY.

PUDSEY

URBAN SANITARY AUTHORITY.

ANNUAL REPORT OF THE MEDICAL OFFICER OF HEALTH.

MR. CHAIRMAN AND GENTLEMEN,

By the Local Government Act of 1894 the Local Board of Health has been replaced by the Urban District Council, and as members of that body the care of the health of the people in the town has been transferred to you. I need hardly remind you that the responsibility is a serious one, and that matters concerned with the public health cover a wide field. The removal and disposal of refuse of all kinds, by proper draining, sewerage, and scavenging is obviously an important part of the work to be done in protecting the health of the town, and by some persons is considered to be the whole of sanitation from beginning to end, but it is almost needless for me to say that there are other important measures bound up with health which it will be your function, as health guardians, to deal with. The people under your care should have plenty of pure water, cheap enough to allow them to use it freely. The food they eat should be clean, sound, unadulterated, and free from disease. It is your duty also to ensure that they live in healthy houses, sufficiently large, in good condition, well ventilated, free from damp, and cut off from the noxious influence of sewer gas, or the disgusting effluvia of offensive middens. The word house in this sense also includes schools, factories, and public-rooms, where, on account of the crowding, neglect of the above would be even worse than in private houses.

The prevention of the spread of infectious diseases will be a constant care to you. It also devolves upon you to keep the streams unpolluted, to prevent fouling of the air by smoke and other impurities, and to see that offensive trades are

carried on so as not to be a nuisance. The promotion of personal and domestic cleanliness by the erection of baths and wash-houses is a subject for your consideration. To go further still, everything that you can do to promote better trade in the town is likely to raise the standard of good health, as it gives people the chance of getting better homes, clothes, and food, and of affording luxuries and recreation, which are so needful to counteract the depressing monotony of constant work. The beautifying of the town by maintaining the park, making wide streets, and planting trees, &c., is also distinctly sanitary work. To this incomplete list I may add that the education of the people in the knowledge of the laws of health by lectures and otherwise will enable them to make the best use of what you do for their benefit, and will also strengthen your hands when promoting sanitary reform which often may clash with old fashioned prejudice and ignorance.

It is the duty of your Medical Officer of Health to furnish you with an Annual Report on the state of the health of the Town, and to inform you of all influences affecting, or likely to affect injuriously, the Public Health. It is also required of him to send a copy of such report, at the same time, to the Local Government Board and the County Council, and he is asked by those bodies to re-produce year by year, for their guidance, details in the Report which it is almost superfluous to repeat for you who are intimately acquainted with the District.

I herewith beg to present my Report on the Health of the District during the year 1894.

Pudsey was made a Local Board District in 1872.

It then comprised an area of 2546 acres and the population was 13,077.

Part of the Urban Sanitary District of Pudsey was amalgamated with that of Bradford in 1881,
leaving the present area **2409** acres.

Rateable value for Poor Rate purposes £45,053.

Rateable value for General District purposes £38,820.

The Town was Divided into Five Wards in 1894.

Topography.—The district is roughly pear-shaped, the stem end being West and the broad end East. It is bounded on the North by the Local Board Districts of Calverley and Farsley and the County Borough of Leeds ; on the East by Leeds ; on the South by Leeds and the Local Board District of Tong ; on the West by the County Borough of Bradford.

The houses are arranged in irregular, straggling streets, and there are large open, unbuilt on spaces between the streets. The highest point is 625 feet above the sea level, and the centre of the district is about 600 feet above. From this the ground slopes away in every direction to about 225 feet.

Pudsey Beck flows from North to South across the small end of the district, then flows East, bounding the main part of the South side, and North again, bounding part of the West side. Farsley Beck runs for a short distance on the North side.

These streams and their tributaries are polluted by coal mines, iron works, woollen mills, tan-yards, and other processes of manufacture, as well as by private houses. In fact, they act as main open sewers. They finally end in the River Aire.

The subsoil consists of clay, clayey loam, and shale.

Industries.—There are 30 mills or workshops in the town. The chief trades of the district are woollen and worsted (18 mills), iron works (3), tanning (2), boot-making (1).

Table I. Showing Population, Density, &c., of Present Area (2409 Acres).

Date.	Inhabited Houses.	Uninhabited Houses.	Males.	Females.	Total Population.	Average No. in each Inhabited House.	Average Density.
1871					12173		5.05
1881	2769	403	5587	6427	12314	4.4	5.1
1891	3095	314	6522	6922	13444	4.3	5.

Vital Statistics. — (Calculated on the estimated population for 1894—(13,900).

The Births registered during the year numbered 367 (males 179, females 188), giving a **Birth-rate of 26.4 per 1000.**

The Deaths for the year numbered 203 (males 108, females 95), giving a **Death-rate of 14.6 per 1000.**

The Deaths from the 7 principal Zymotic Diseases, namely, small-pox, measles, scarlet fever, diphtheria, whooping cough, "fever" (typhus, simple, continued and enteric) and diarrhœa, numbered 10, giving a **Zymotic Death-rate of 1.72 per 1000.**

The Deaths of Infants under one year of age numbered 43, and, calculated on the number of children whose births were registered during the year, give an **Infantile Death-rate of 117.**

There were 38 deaths from bronchitis, pneumonia and pleurisy, giving a **Respiratory Death-rate of 2.6 per 1000.**

There were 16 deaths from phthisis, giving a **Phthisis Death-rate of 1.1 per 1000.**

Deaths registered as due to old age—15.

Deaths above 80 years of age—7 (the oldest being 89).

Deaths from injury—6.

Suicides—0

Inquests held—11.

Uncertified deaths registered—0.

Illegitimate births registered—13.

Still-born children buried in the Cemetery—26.

The Death and Birth Returns are obtained from the Registrar every week with unfailing regularity.

Table 2.—Showing the Births; Total Deaths; Deaths from Zymotic and other Classes of Diseases, etc., for the last Thirteen Years. (Some of the Spaces are Blank for want of Information.)

	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894
Births ...	477	390	343	374	351	332	323	311	347	326	352	356	367
Deaths ...	259	235	259	216	259	251	291	313	294	294	226	254	203
Infants under One Year	...	...	...	...	...	...	71	74	59	51	54	60	43
Phthisis	23	20	22	24	27	22	32	25	21	13	17	23	16
Seven Zymotic Diseases	41	51	35	21	37	22	22	53	20	26	14	39	10
Small Pox	0	1	0	0	0	0	0	0	0	0	0	1	0
Measles	9	4	8	0	8	3	3	34	0	1	4	8	0
Scarlet Fever	4	6	5	3	11	10	1	1	0	4	1	1	5
Diphtheria	3	1	1	0	2	0	0	0	0	1	1	0	1
Whooping Cough	6	3	0	8	1	0	15	0	4	14	0	0	0
Diarrhoea	7	31	18	5	12	5	1	12	4	3	2	25	2
Fever { Typhus { Enteric { Continued	12	5	3	5	3	4	2	6	12	3	6	5	1
Chest Complaints { Bronchitis { Pneumonia { Pleurisy	46	63	56	51	56	66	86	72	93	89	51	44	38
Heart Disease	17	...	10	13	18	18	13	21	19	19	13	14	10
Croup ...	1	3	5	1	3	1	4	4	3	1	0	3	0
Injuries	5	...	7	4	7	6	3	10	8	11	6	9	6
Cancer...	...	...	...	...	...	...	...	...	...	8	12	7	12

The Birth-rate is a slight improvement on last year, and is nearly the same as the average for the last ten years.


The Death-rate is the lowest recorded, the previously lowest being 16.6 in 1892. It is 5.0 below the average of the last ten years. This of course is very satisfactory and would be much more so if it could be credited to the sanitary improvements of the last few years. This cannot be fairly done as I understand there are phenomenally low death-rates for 1894 all over the country, so that the cause must be more general. The weather will probably partly account for it, and the re-action after the severe influenza years must also be taken into account. However although the improved health of the town, as measured by the death-rate, cannot altogether be put down to local causes, I feel that in part recent sanitary measures account for it and three in particular. I may mention first, the improved scavenging, secondly, the prevention of lead poisoning, and thirdly the better provision for checking the spread of infectious diseases. From table (3) it will be seen that the improvement is not merely for the one year, but that the last three years together show a lower death-rate than any other successive three years.

Table 3—Showing the number of Deaths & Death-rate since 1874

PUDSEY WITH TYERSAL.				PUDSEY, PRESENT AREA.			
Year	Estimated Population.	Deaths	Death-rate.	Year	Estimated Population.	Deaths	Death-rate.
1871				1881	12314		17.4
1872				1882	12416	259	20.8
1873				1883	12520	235	18.7
1874	14302		24.0	1884	12627	259	20.5
1875	14419	384	26.6	1885	12738	216	16.9
1876	14567	367	25.1	1886	12850	259	20.6
1877	14715	315	21.4	1887	12964	251	19.6
1878	14894	412	27.6	1888	13079	291	22.2
1879	15077	321	21.2	1889	13193	313	23.7
1880	15265	334	21.8	1890	13320	294	22.1
1881				1891	13444	294	21.8
				1892	13590	226	16.6
				1893	13740	254	18.4
				1894	13900	203	14.6
Average ...			23.9	Average ...			19.7

TABLE 4.—Deaths ; Births ; Zymotic and Respiratory Deaths, &c.

	Births Registered.	Birth-rate per 1000 living.	Deaths Registered.	Death-rate per 1000 living.	Deaths from Seven Zymotic Diseases.	Zymotic Death-rate	Deaths from Bronchitis, Pneumonia, Pleurisy.	Respiratory Death-rate.	Death-rate for 1893	Average Death-rate for last 10 years.	Mortality from all causes at subjoined ages.					
											Under 1 year.	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and upwards
JANUARY	41	34	22	18.6	2		6		25.7		5	4	1		6	6
FEBRUARY	19	17	16	15.0			4		25.5		5				5	6
MARCH	28	23	17	14.4	2		6		23.1		3	3	1	1	5	4
TOTAL FOR QUARTER	88	24	55	16.0	4	1.1	16	4.6	24.7	71.3	13	7	2	1	16	16
APRIL	35	30	13	11.3	1		3		16.8	22	3			2	5	3
MAY	39	34	20	17.5	1		6		15.4	24	5	3			8	4
JUNE	20	17	14	12.2	1		1		15.0	22	3	0	1	2	6	2
TOTAL FOR QUARTER	94	27	47	13.5	3	.8	10	2.8	15.7	69	11	3	1	4	19	9
JULY	32	27	21	17.7			4		6.0	25	5	2	2		6	6
AUGUST	28	23	17	14.4			1		27.4	17.9	3	1			11	2
SEPTEMBER	25	22	15	13.13	1				15.9	17.6	2	1		2	6	4
TOTAL FOR QUARTER	85	24	53	15.29	1	.3	5	1.4	16.4	53	10	4	2	2	23	12
OCTOBER	34	28	14	11.8			2		14.5	22	4	3		3	1	3
NOVEMBER	30	26	10	8.7			1		23.0	20	2	1		1	3	3
DECEMBER	36	30	24	20.3	2		4		13.7	22	3	3	2	2	8	6
TOTAL FOR QUARTER	100	28	48	13.6	2	.5	7	1.9	17.0	65	9	7	2	6	12	12
TOTAL FOR YEAR	367	26.4	203	14.6	10	.72	38	2.7	18.4	260	43	21	7	13	70	49



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TABLE 5.—Mortality from subjoined causes, distinguishing Deaths of Children under Five Years of Age.

		Small-Pox.	Scarlet Fever.	Diphtheria.	Membranous Croup.	Fevers.			Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhoea and Dysentery.	Rheumatic Fever.	Ague.	Phthisis.	Bronchitis. Pneumonia. Pleurisy.	Heart Disease.	Injuries.	All other Diseases.	Total.
						Typhus.	Enteric.	Puerperal.													
JANUARY	Under 5...		1														5			3	9
	5 upwards												1			1	1			10	13
FEBRUARY	Under 5...								1								2			2	5
	5 upwards																2	1		8	11
MARCH ...	Under 5...																3			3	6
	5 upwards		2					1								1	3	1		3	11
Total for Quarter	Under 5...		1						1								10			8	20
	5 upwards		2					1				1				2	6	2		21	35
APRIL ...	Under 5...																1			2	3
	5 upwards		1										1				2			6	10
MAY ...	Under 5...		1														2			5	8
	5 upwards																4	1		7	12
JUNE ...	Under 5...											1								5	6
	5 upwards															2	1		3	2	8
Total for Quarter	Under 5...		1									1					3			12	17
	5 upwards		1									1				2	7	1	3	15	30
JULY ...	Under 5...																1			6	7
	5 upwards								1				1			2	3	2		5	14
AUGUST ...	Under 5...																			4	4
	5 upwards															2	1	2		8	13
SEPT'MB'R	Under 5...																			3	3
	5 upwards						1									3		1	3	7	12
Total for Quarter	Under 5...																1			13	14
	5 upwards						1		1			1				7	4	5	3	17	39
OCTOBER	Under 5...																2			5	7
	5 upwards															3				4	7
NOVEMB'R	Under 5...																1			2	3
	5 upwards															1				6	7
DECEMBER	Under 5...			1													1			4	6
	5 upwards						1		1							1	3	2		10	18
Total for Quarter	Under 5...		1														4			11	16
	5 upwards						1		1							5	3	2		20	32
Total for Year	Under 5		2	1					1			1					18			44	67
	5 up'rds		3				2	1	2			1	2			16	20	10	6	73	136

Table 6.—Showing some of the principal rates in a form admitting of comparison.

COMPARATIVE RATES.

	1890.			1891.			1892.			1893.		
	West Riding C.C.	England and Wales.	Pudsey.	West Riding C.C.	England and Wales.	Pudsey.	West Riding C.C.	England and Wales.	Pudsey.	West Riding C.C.	England and Wales.	Pudsey.
BIRTH-RATE	31.1	30.3	26.0	31.3	31.4	24.2	30.8	30.5	25.9	31.3	30.8	25.9
DEATH-RATE	19.9	19.6	22.0	21.1	20.2	21.7	18.3	19.0	16.6	19.6	19.2	18.4
INFANFILE MORTALITY (a)	149	151	170	162	149	156	143	148	153	166	159	168
ZYMOIC DEATH-RATE	1.7	2.1	1.4	2.0	2.7	1.9	1.68	1.90	1.03	2.63	2.47	2.8
MEASLES	0.27	0.43	0.0	0.59	0.44	0.07	0.26	0.45	0.29	0.43	0.36	0.57
SCARLET FEVER	0.30	0.24	0.0	0.21	0.17	0.29	0.22	0.19	0.07	0.20	0.23	0.07
DIPHTHERIA	0.12	0.18	0.0	0.12	0.17	0.07	0.13	0.20	0.07	0.15	0.30	0.0
WHOOPING COUGH	0.28	0.46	0.29	0.39	0.47	1.4	0.41	0.43	0.0	0.24	0.33	0.0
FEVER (b)	0.22	0.19	0.88	0.21	0.18	0.21	0.18	0.14	.43	0.28	0.24	0.35
DIARRHŒA	0.46	0.57	0.29	0.42	0.47	0.21	0.36	0.50	.14	1.21	0.97	1.8
VIOLENCE	0.50	0.68	0.59	0.64	0.57	0.78	0.60	0.62	0.43	0.61	0.63	0.64

WEST RIDING C.C.—West Riding including the Five County Boroughs.

(a).—Deaths under one year of age per 1,000 births.

(b).—Typhus, Enteric (or Typhoid) and Simple Continued Fever.

Table 7 Shows the Comparative Mortality of the Five Wards. Owing to the difficulty of accurately obtaining the population of each Ward the figures are only approximate.

Name of Ward.	Area in Acres	No. of Inhabited Houses.	Estimated Population 1894.	ANNUAL DEATHS AND DEATH-RATE.							
				1891		1892		1893		1894	
				Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.
NORTH	269	565	2486	52	20.9	46	18.5	64	25.7	56	22.5
SOUTH	592	669	2943	55	18.7	42	14.2	34	11.5	28	9.5
EAST	360	697	3066	62	20.2	45	14.6	44	14.3	51	16.6
WEST	1037	598	2631	61	23.1	53	20.1	51	19.4	36	13.7
CENTRAL	151	631	2776	65	23.4	35	12.6	56	20.2	32	11.5

Infectious Diseases.—The above class of diseases dealt lightly with the town during the year. The number of deaths from the seven principal zymotic diseases is the lowest recorded in one year. We should not by this be lulled into a false security, but should always keep on the alert, ready, without delay, to isolate any fresh cases that come into the town and so prevent the complaint spreading to those who are well. The cardinal points to bear in mind in combating infectious diseases are,

(1.) That these diseases do not break out afresh or from such causes as “cold, fatigue, &c.,” but that every person affected must have, in some way or other, been infected by getting the poison of another case of the same disease into the system. Each disease has its own peculiar “germs,” which, when introduced into the body, multiply and cause the disease.

(2.) It follows from the above that if the first case, or cases, be at once isolated (*i.e.*, kept carefully apart from those who are well so as to prevent any spread of the germs) the disease cannot spread.

To give practical effect to these principles it is necessary, (a) To get the earliest possible information of the presence of the disease and this can only be had by compulsory notification,

(b.) Promptly to isolate the sick, either by removal to hospital, which is more reliable, less expensive to the patient, and much less troublesome to the family, than by the alternative plan of isolation at home. The latter can only be depended in a small proportion of the cases as, especially in smaller houses, the accommodation is insufficient, and the persons having charge of the patient, either from want of knowledge or carelessness, do not carry out the many necessary precautions with the thoroughness required.

(c.) After the removal to the hospital, or when the illness has ended at home, the house and every person and thing that has been infected by contact, directly or indirectly, with the patient, must be rendered harmless by disinfection.

The Infectious Disease (Notification) Act, 1889, is an adoptive act, which was passed on August 30th of that year, and in about a quarter of a year was adopted by sanitary authorities representing more than two-thirds of the population of England and Wales. At the end of 1892 five-sixths had taken advantage of it. At the present time 83 per cent of the West Riding population are under it, and it is hardly necessary to remind you that our big neighbour—Leeds, the only large town that was not under the act, accepted it last year. This readiness of the great majority of the population to make use of the act is in itself a proof of its value, and now an authority that does not adopt it may be likened to the famous twelfth jurymen, who, because his other eleven colleagues did not agree with him, considered them intellectually weak.

When the adoption of the act was considered and rejected by the Sanitary Authority in 1891 the objections raised against it were—first, that it would not be of any use as there was no hospital to take the cases to. This does not hold now. Secondly, an alarm was sounded that it would lead to closing of shops, and in other ways press heavily on people. This objection can easily be met by a distinct denial, because it is purely and simply a notification act, and nothing else is mentioned in it. The provision of the act may be summed up in a few words. By it the person in charge of the patient and the medical attendant must inform the Sanitary Authority of the existence of certain diseases, and the latter is paid a fee for his trouble. Thirdly, the cost of the fees to the medical attendants was urged as an objection to it. It must, however,

be kept in mind that where there are few cases the sum of the fees will be small, if there are many the amount will be greater, but so will the value and need of the information.

The following summary from "Public Health Problems" puts very concisely the advantages derivable from compulsory notification :—

1. Timely and entire information of *all* cases of the diseases notifiable, their nature and location.
2. Power of preventing the spread of infection.
 - a.* By enforcing proper isolation within the house and preventing exposure without, and by encouraging the treatment of non-isolated cases in hospitals provided for the purpose.
 - b.* By enforcing the disinfection of persons and personal effects, and of dwellings and their contents.
 - c.* By vaccinating those in contact with small-pox cases.
 - d.* In case of death by taking proper precautions for the disposal of the body.
 - e.* By preventing the attendance of infected children at school, and of infected adults at workshops, offices, &c.
 - f.* By preventing clothing and furniture generally from being infected in domestic workplaces, laundries, &c.
3. Means of ascertaining the cause of outbreaks of disease.
 - a.* By investigating the sanitary condition of localities, premises and houses.
 - b.* Inquiring into the health of households and the associations of the occupiers.
 - c.* By inquiring into sources of water, milk and food supplies.
 - d.* By inquiring into the school, workshop, office, etc., attended, or laundry used.
4. Furnishing the data for statistical records of the prevalence and virulence of diseases, and of the variations to which they are subject.

Small-pox.—I heard of only one case during the year, the patient was removed at once to a hospital in another district.

Vaccination Return for the Year 1893.

Number of Births registered from Jan. 1st to Dec. 31st, 1893.	Successfully Vaccinated.	Insusceptible	Died Unvaccinated	Postponed by Medical Certificate. (A)	Removed to Places		Not finally accounted for. (D)	Percentage of Unvaccinated children including columns A. B. C. D.
					Known. (B)	Unknown. (C)		
360	287	6	41	2	0	9	15	7.2

Scarlet Fever.—This complaint was present in the town all through the year and assumed an epidemic form in April, when over 20 cases came to my notice. A number of the cases we heard of by accident, often only when the patients had been ill for some time, and without doubt the disease was spread by unknown and half-well cases going about the streets and attending school. A case that began in March, but only came to my knowledge at the end of April, was presumably the cause of two other cases. A relation who regularly visited the sick child worked at a mill between two other workers; one of them, a woman, sickened with Scarlet Fever and a child of the other got the complaint about the same time. The majority of the cases were mild, and did not show a great tendency to spread, Table 8 gives number of cases found out, removed to hospital, &c.

Enteric Fever.—A few sporadic cases cropped up during the year. Each case treated at home was provided with fever-pails and disinfectants.

Influenza.—A few cases came to my notice in January, February, March, April, and May. The number of cases increased in November and December. Most of the patients had had the disease once or twice before—the attack was slight as a rule, and there were few complications of any importance.

Table 8.—Zymotic Diseases—1894.

Disease.	Number of cases.	Number of deaths	Number sent to Hospital	Remarks.
Small-Pox ...	1	0	0	July (1).
Scarlet Fever	62	5	34	January (3 cases), February (3), March (6), April (19), May (14), June (3), July (3), August (3), (September (2), November (3), December (3).
Enteric Fever	8	1	2	February (1 case), May (1), September (1), October (2), November (3), December (1).
Diphtheria ...	2	1	0	May (1), December (1).
Whooping Cough	A few.	0		June, August.
Measles ...	A few.	0		October (6).
Diarrhœa ...	A few.	2		
Influenza ...	Many.	2		A few cases in January, February, March, April, May. Epidemic in November and December.

Hospital for Infectious Diseases.—The Calverley Joint Hospital, opened November, 1891, with 18 beds. An additional wooden building, for 6 beds, opened in February, 1893. Another iron addition for 10 small-pox beds, opened in May, 1893. This hospital was built and is maintained by Pudsey, Idle, Eccleshill, Farsley and Calverley, having a total population (Census 1891) of 36,343, and an area of 7,236 acres.

The following summary for the year is supplied by the matron.

CALVERLEY JOINT HOSPITAL — 1894.

TOWNSHIPS.	SMALL-POX.		SCARLET FEVER		ENTERIC FEVER		DIPHTHERIA.		TOTAL.	
	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted	Died.
CALVERLEY	5		3		3	1			11	1
ECCLESHILL	2		34		1				37	
FARSLEY	3		1		3				7	
IDLE	1		17	1	5	1	5	1	28	3
Pudsey			34	2	2				36	2
TOTAL	11		89	3	14	2	5	1	119	6

The disinfecting of the infected houses, clothes, etc., for the five districts is done by the hospital staff, and the system on the whole works well.

Free Hospital.—It is pleasant to record that during the year the Local Board decided that in future there should be no charge made to patients from Pudsey who are treated at the fever hospital.

Refuse Disposal and Scavenging.—The Local Board undertook the Scavenging of the District in 1884.

Attention to the proper scavenging of their district is one of the most important duties of a Sanitary Authority, and is considered by the highest authorities on sanitary matters to have an important effect on the health of the community.

I reported last year an improvement in the scavenging of the district, and there has been a further improvement during 1894. The privies and ashpits are now cleaned out 12 times a year, instead of 8 times, and those belonging to factories and schools every fortnight; in the case of the schools the emptying is now ordered to be done on Saturday, when the school has a holiday.

For health and decency these regulations with regard to the factories and schools should be strictly carried out; but whenever it is possible trough closets, with automatic flush tanks, should be adopted; the midden system, bad as it is for private houses, is very much worse when applied to factories and schools.

Although the present scavenging system is a vast improvement on the state of things that existed ten years ago, it is still far from satisfactory, and it is now time for the Council to give the subject their full consideration. Up to the present the Sanitary Authority has not allowed the use of water closets, although a considerable number have been put in without permission, and the water used charged for both by the Water Company and afterwards by the Local Board. The reason for objecting to them was the want of main sewers, and a delicate consideration for the purity of the streams.

The following opinions of Professor W. H. Corfield, one of the greatest authorities on refuse disposal, may be helpful to the Council.

Middens (Conservancy System)

“ There can be no doubt about the fact that any form of midden is unadvisable from the great expense of scavenging and the inconvenience caused by the frequent visitations of the scavengers, especially as they have to disturb the contents of the middens in digging them out. These frequent visitations are most unpopular, and any plan which makes such visits as unfrequent and as short as possible, or does away with them altogether, is sure to be greatly preferred.”

The Water Carriage System

“ By this system is meant that all the human excreta matters of the community—solid as well as liquid—are, together with the waste waters, conveyed away from the houses in drains and from the town in sewers. The force which conveys them is gravitation, and this is enabled to exert its power by reason of the liquid condition of the sewage. The solids of the sewage, whether solid excreta or solid waste particles contained in the house waters, are so insignificant in volume in comparison with the liquids that they are carried along with ease in the flowing current. No additional water is required to enable the liquid wastes of the house to carry with them the solid excreta ; but in order to render the passage of the latter, when deposited in water-closets, as quick and perfect as possible, and also to ensure cleanliness of the water-closet apparatus, soil pipes, and drains, water is used to flush these receptacles and to carry the excrement rapidly away down the soil drains into the street sewer.”

"By this system, therefore, there need be no retention of excretal matters on the house premises. Its leading principle is to convey them away from the house, and subsequently from the town, as quickly as flowing water will do it. This is the great contrast between the water-carriage and all conservancy systems ; but, besides this, it is evident that the force employed in water carriage, viz., gravitation costs nothing, whereas the manual operations of scavenging removal in the conservancy systems are very costly."

"We have already seen that every town must have a system of sewers for conveying away the waste waters from the houses and streets, and that these waste waters are of very nearly as objectionable and polluting a character as if they contained the solid human excreta. It therefore follows that whatever precautions are necessary to be taken in the construction and maintenance of the sewers of water-closeted towns, and whatever means require to be adopted for the purification of the latter before discharge, apply with nearly equal force to the case of the midden towns, where the sewage is to a great extent free from solid forces."

"Neither need there be any question of increasing the capacity of the sewers of a midden town which has adopted water-closets."

House Gullies.—The Board in 1893 appointed a man to clean out all the gullies of the house drains. This work, which was more or less of an experimental nature, I consider to be a salutary measure, and I trust the Board will continue it. The man was appointed for two months, and during that time he twice completed the round of the town, so that it may be taken that all the private house gullies in the town can be cleaned in a month. The man found that a large proportion of the gullies were dirty, and choked ; in fact they were little cesspools dangerous to health. He also found out that a number of the householders had no idea that the gullies needed cleaning or any kind of attention. From this point of view the work has a considerable educational value. A large number of the gullies were found to be far too large, and the workmanship used in the fixing of them often defective, so that it is nearly impossible to keep them clean enough to be safe for health.

I regret to say this important and inexpensive work has not been continued, and I would ask the Council to go on

with it. It will soon have an additional importance in connection with the new sewage scheme. It is important that all sewage should reach the purification works in as fresh a state as possible, otherwise the cost of treating it will be increased. As these gullies if not regularly cleaned out always contain putrefying material, and as nearly all the sewage passes through them, decomposition is at once set up in it.

Main Sewering.—The Local Board in 1888 had a scheme for the main sewerage of the town prepared by Mr. J. H. Rhodes, C.E. This scheme was rejected by the Local Government Board because there was no provision for sewage treatment. In 1893 Mr. Spinks, C.E., revised this scheme and submitted amended plans, which included sewage purification works, to the Local Board. These plans received the sanction of the Local Government Board in November, 1893, and permission was given to borrow £36,000. The Local Board in December, 1893, instructed Mr. Cass, the Town Surveyor, to prepare contract drawings, together with other documents and data necessary for carrying out the works.

In April, 1894, a beginning was made of the main sewerage, and 5000 yards were practically finished before the end of the year. To this may be added 2000 yards of pipe sewers, laid down before, that will fit in with the new scheme. These together, I am informed by Mr. Cass, form about three-quarters of the main sewerage to be done within the town. The Stanningley and Waterloo districts come on next, and in both these parts of the town there is urgent need for good drainage and sewerage. The treatment works have not yet been begun, nor have the house drains been connected to the new main sewers, both of course essential parts of the scheme.

The sewerage so far has been done thoroughly; the best materials and workmanship have been insisted upon by the Authority; the economy of good plans and the vital necessity for good construction being kept fully in mind. Draining and sewerage are the most expensive part of sanitary work, and need great technical skill in carrying them out properly, and afterwards continuous care to secure efficiency. Any want of judgment in the first, or careless-

ness in the latter **may** mean heavy loss, and render the scheme useless. In his adjoined report Mr. Cass, knowing the importance of the subject, has gone thoroughly into it, and his practical remarks are deserving of the closest attention from the members of the Council.

Bye Laws.—The Sanitary Authority has Bye Laws relating to

1.—The Level, Width, &c., of New Streets and Sewers thereof.

2.—The Prevention of Nuisances arising from snow, filth, &c., and the keeping of animals.

3.—The cleansing of footways, &c., removal of refuse, and cleansing of Privies.

4.—The Regulation of Slaughter-houses.

5.—The Regulation of Common Lodging-houses.

6.—The Regulation of the Duties of the Surveyor and Nuisance Inspector.

These Bye-Laws were sanctioned by the Local Government Board in 1873, and are very much out of date. —Probably on that account they are not adhered to.

In 1892 the Local Board determined to adopt the Local Government Model Bye-Laws for New Buildings, with a few alterations. There has been a long correspondence with the Local Government Board, and at the end of 1894 the Local Board had accepted the Model Bye-Laws in their entirety except the part relating to back to back houses, the building of which they wished to retain the power to allow. The sooner the matter is settled the better, as new buildings are being put up every day and consequently the Town is suffering from the delay.

Plans Passed and Houses Built in 1894.

Back to Back Houses, Plans passed ...	...	68
„ „ „ „ Built ...	...	36
Through Houses, Plans passed ...	...	84
„ „ Built ...	...	58
Street Plans passed ...	...	20
Total number of Plans submitted ...	...	108

I would urge the Council to thoroughly over-haul their present Bye-Laws, and bring them up to date, also to frame new Bye-Laws under part III of the Public Health Acts Amendment Act 1890. It is impossible to be too careful that new houses are in every respect well built and free from any danger to health. They should not be inhabited without a certificate to that effect from the Council.

Paving of Private Streets, Passages, etc.

In my report for 1892 I wrote as follows.—“In most matters steady sanitary progress is being made in Pudsey but I regret that there is one exception to the rule. For two years I have brought the filthy, unhealthy, and unsightly state of the private streets and passages to your notice ; and it has also, in consequence of a complaint from some ratepayers, been the subject of a County Council letter to the Board. In wet weather a number of these streets, *e. g.*, Greentop, Occupation Lane, Crawshaw Fields, Varley Street, are deep in mud, and pools of standing water. Without doubt the general health of the town is injuriously affected by this backward state of things and on that account, apart altogether from the æsthetic side of the question, it is the duty of the Board to deal promptly and fully with this source of danger.”

This year I have to report that the Local Board took the matter seriously in hand, and although at the end of the year the work of improvement had not commenced, the necessary notices under 150 Sect., P.H.A., 1875, were served.

Regular Inspection of District.—In compliance with the P.H.A., 1875, Sect. 92, I have made regular inspections of the district. The following is a summary of some House to House inspections.

Table showing some details of House to House Inspection of 138 Houses.

Sink Drains.	Trapped and disconnected	36
	" " connected	22
	Untrapped and connected	53
	" " disconnected	6
	Houses without sinks... ..	23
House Drainage.	Untrapped into houses	2
	" " out-drains	105
	Defective	95
	Fair	11
	Good	2
	Houses without drains	6
Water in cellars		10
Water Supply.	Pipe water	111
	Pump	4
	Shallow well	6
	Rain water	4
	None	13
Population. Children. Adults.	Males	164
	Females	187
	Males	49
	Females	65
Total population		465

Abatement of Nuisances.—Any doubt about the state of the district as represented in my annual report for 1891 will be removed by reading Table 9, which shows the number of nuisances abated in the last three years.

Table 9.—Summary of Sanitary Inspector's Report for the
Years 1892, 1893 and 1894.

						1892	1893	1894	Total
No of Complaints received } Full Ashpits ...						82	31	58	171
						Nuisances ...						25	101	43	196
No of Houses, Premises, &c., inspected ...						656	597	379	1635
No of Nuisances reported						1782	1077	1237	4096
No of Nuisances abated						1080	1077	1237	3394
No of Re-inspections, Works in Progress ...						1541	1675	1579	4795
Results of Inspections.	Orders issued for Sanitary Amendments					204	242	225	671
	Houses, Premises, &c., Cleansed and Limewashed					31	39	55	125
	Accumulations removed					37	38	61	136
	Animals removed, being a Nuisance ...					24	29	13	66
	Yards, Courts, &c., Cleansed						9	20	29
	Notices to Scavengers to Cleanse Ashpits					250	171	129	550
Cases of Overcrowding abated							6	8	14
Privies	}	Altered				40	70	105	215
		New Provided				62	114	107	283
Ashpits	}	Altered				24	26	83	133
		New Provided				25	55	61	141
Drains.	Length in feet					9534	7762	4535	21831
	Trapped					374	417	168	959
	Disconnected					282	336	127	745
	Cleansed					15	58	180	253
	Ventilated					31	36	35	102
Regular Inspections.	Cowsheds					74	95	106	275
	Slaughter-houses					14	60	23	97
	Bakehouses					13			13
	Common Lodging-houses...					13	77	13	103
	Mills							18	18
Legal proceedings						5	0		5
Smoke Observations						6	8	43	57

It may be necessary for me to remind the Council that the greater part of the work relating to the abatement of nuisances does not come before the Sanitary Authority. Preliminary notices are served by your officials, afterwards followed by personal interviews or letters if any advice, or explanation, is required. This is the method employed, and found to work well, in a large number of towns.

Table showing number of Nuisances abated for last three years :—

		1892.	1893.	1894.	Total.
Order of the Board.	By Legal Proceedings	5			5
	By Legal Notices	107	62	89	258
Preliminary Notices	By Personal Arrangement	968	686	910	2564
Total					2827

Although the above figures indicate that much has been done to clear the town of nuisances, it must not be inferred that there is not a large amount of work of the same kind yet to be done. In the interest of the health and comfort of the inhabitants it should be pushed on steadily and thoroughly. The success, or otherwise, with which this branch of sanitation is advanced depends largely on the energy, tact and skill of the Sanitary Inspector. It is quite a misconception to believe that any man, if he happens to be fairly well educated, sober, and willing to work hard can properly fill the position. He must, in addition, have special knowledge and special training for the work. The certificate of the Sanitary Institute, given after an examination that covers a wide range of subjects, is a guarantee that a man possesses the necessary technical knowledge, and it is becoming more common every day for

Authorities to refuse to appoint an inspector who has not a certificate, and other places give the inspectors already in their employment a definite time to pass the examination, and if they do not obtain the certificate within that time dispense with their services.

The following points deserve your attention.

Notices to abate nuisances have at times been served by the Sanitary Authority but not enforced. This want of firmness in dealing with such cases has, as a rule, been due to leniency carried to an extent that has not always been for the public good. If the Authority decides that a nuisance exists, no consideration for the position of the offender should prevent its abatement. The harm done is not merely confined to each case, but also causes other persons to hesitate, and delay the carrying out of the notices in the hope that a similar mercifulness may be extended to them.

In other cases a needless delay in compelling the abatement of nuisances has been detrimental to efficient work. As an extreme instance I may mention a nuisance reported in 1874 and suppressed in 1884. Some member of the late Board will doubtless remember the numerous complaints, inspections, reports, deliberations, notices, &c., extending over ten years in connection with the Square, Greenside ; and Varley Street. The nett result so far being that these unsightly places are in the same state as they were at first.

Notices for the abatement of nuisances, issued by the Authority, specify the work necessary to be done for remedying the nuisance, but some persons instead of fully executing it only do so in part, and at times do so little that it is obviously a mere sop to disarm the Authority. This is troublesome to the staff, and detrimental to efficiency, and should be suppressed with a high hand.

It is also a matter of kindness to the property owner to insist on the work being done at once and completely, as otherwise you will be coming on him again in a short time to do something additional, and this means renewed expense and annoyance.

It is well to remember that in addition to the abatement of nuisances, constant supervision is necessary to prevent the formation of fresh ones, and the recurrence of those which have been abated.

Water Supply.—The Local Board in 1892 bought the plant of the Calverley District Waterworks Company. The water is bought from the Bradford Corporation. It is pure and soft; the supply is constant, under good pressure.—There were exceptionally few complaints about the regularity of the supply during the year.

I did not hear of a single case of Lead Poisoning during the year. The average weekly amount of lead in the water, drawn the first thing in the morning from a tap of a lead pipe 180 feet long is shown on page 25, also the comparative result for 1892 and 1893.

		1894.			1893.	1892.
Week Ending.		Hardness, Degrees.	Alkalinity (parts per million, in term of carbonate of lime.)	Weekly Average Grs. Lead per Gallon.	Monthly Average Grs. Lead per Gallon.	Monthly Average Grs. Lead per Gallon.
January	7th	3	10.5	.07	.1	.17
"	14th	3		.1		
"	21st	3.5		.14		
"	28th	3.1		.1		
February	4th	2.8	11.3	.15	.1	.15
"	11th	3		.13		
"	18th	3		.08		
"	25th	3		.07		
March	4th	2.8	10.0	.1	.09	.17
"	11th	2.8		.11		
"	18th	3		.09		
"	25th	3		.13		
April	1st	3.2	12.2	.11	.19	.16
"	8th	4		.07		
"	15th	3.4		.16		
"	22nd	3.2		.21		
"	29th	3.4		.23		
May	6th	3.6	13.1	.24	.11	.11
"	13th	3.6		.06		
"	20th	4.2		.06		
"	27th	4.2		.1		
June	3rd	4.8	14.4	.08	.08	.12
"	10th	4.3		.08		
"	17th	4.3		.11		
"	24th	4.4		.04		
July	1st	4.5	15.6	.06	.1	.11
"	8th	4.7		.06		
"	15th	4.3		.07		
"	22nd	4.2		.11		
"	29th	4.5		.11		
August	5th	4.4	16.4	.14	.06	.11
"	12th	4.6		.03		
"	19th	4.7		.03		
"	26th	4.6		.03		
Sept'mb'r	2nd	4.9	16	.03	.08	.11
"	9th	4.1		.15		
"	16th	4.1		.08		
"	23rd	4		.07		
"	30th	4		.07		
October	7th	4.0	21.4	.07	.11	.14
"	14th	4.5		.11		
"	21st	4.5		.11		
"	28th	4.2		.14		
Nov'm'b'r	4th	4.0	13.8	.11	.15	.10
"	11th	4.1		.14		
"	18th	4.0		.14		
"	25th	4.0		.21		
December	2nd	4.1	12.5	.13	.15	.12
"	9th	4.1		.24		
"	16th	4.2		.2		
"	23rd	3.8		.13		
"	30th	4.3		.05		

Milk Supply.—There are 71 dairies and cowsheds, with about 300 cows.

Regulations under the Dairies, Cowsheds and Milkshops Order, 1885, adopted by the Local Board, November 14th, 1892. Came into force, January 1st, 1893.

For the inspection of Cattle in Dairies.

For prescribing and regulating the lighting, ventilation, cleansing, drainage, and water-supply of Dairies and Cowsheds, in the occupation of persons following the trade of Cowkeepers or Dairymen.

For securing the cleanliness of Milk-stores, Milk-shops, and of Milk-vessels used for containing milk for sale by such persons.

For prescribing precautions to be taken by purveyors of milk and persons selling milk by retail against infection or contamination.

As serious epidemics of disease are frequently caused by infected milk it is most desirable in the interest of the public health that cowkeepers should observe the above Regulations. In my report for 1892 I put before you in some detail the result of an inspection of the Cowsheds and Milkshops in the town, and it shows how far removed a large percentage of the Cowsheds were from the ideal prescribed by the Order of 1885. The chief requirements under the Order are the reasonable ones of **food, drainage, light, ventilation, breathing space, cleanliness and safe water supply.**

Regular inspection of the premises has been carried out during the year. It is difficult to get the Cowkeepers to conform to the Regulations, many are wedded to old time superstitions, especially as to the importance of filth and dirt for the prevention of diseases in cattle.

Smoke Prevention.—I have had frequent complaints about the smoke nuisance. Table 10 shows that there was reason for these complaints. It also indicates that the great majority of the factories have no special smoke preventing apparatus, and depend only on hand stoking. A smoke polluted atmosphere, in addition to its disfiguring and destructive effects on buildings and vegetation, its general befouling of everything, and its lessening of the amount of sunshine, is also distinctly injurious to health. When the question of the suppression of smoke is brought forward there is generally a wail from the manufacturers that it means expense and that the present state of trade and competition is such that business would be injuriously affected if the law was enforced. It might be answered to this, that putting the health aspect of the question altogether aside, smoke contaminated air in addition to causing a lot of petty discomforts, is also a heavy and continuous cost from the damage it does to furniture, painting, decoration, &c. The extra cost of washing is also a tax on rich and poor alike. Doubtless the sum total of such expenses would more than equal the amount necessary for the prevention of the evil. If the smoke nuisance was an unavoidable necessity, the people who reside and make their living in a manufacturing district could not fairly object to it, but some of the largest manufacturers, who have fully put the matter to the test, in other towns, "testify to the saving of coal consumption, and the increased production of heat, from the use of properly constructed smoke prevention apparatus." "This economy is no misconception, is a recognised fact, and should induce manufacturers to adopt without interference or coercion by the law, means proved productive of economical results, and at the same time doing something *pro bono publico*." The law (P. H. A. 1875, Sect. 91) does not allow a factory chimney to send out any black smoke so as to be a nuisance, but the general rule is to allow a certain maximum limit which varies in each town. Pudsey has not many mill chimneys in proportion to its area, and should not be classed as a "smoky district," which at present undoubtedly it is. A reasonable smoke limit adopted by the Council, **and enforced**, would soon improve the town.

Table 10.—Smoke Observations—1894.

No. of Chimney.	Date.	Minutes of Smoke in One Hour.			Remarks.
		Black.	Light.	None.	
1	June 8th	18	17	25	{ Bennis Stoker Steam Jet. Moveable Bars. Proctor Stoker
	Sept. 25th	17	29	14	
2	June 8th	5	16	39	
	Sept. 25th	22	5	33	
3	June 11th	14	10	36	
	Sept. 24th	24	29	7	
	Nov. 27th	16	19	25	
4	June 11th	1	17	42	
	Sept. 24th	1	54	5	
5	June 11th	11	15	34	
	Sept. 25th	0	27	33	
6	June 12th	19	36	5	
	Sept. 18th	11	37	12	
7	June 12th	7	11	42	
	Sept. 18th	2	18	40	
8	June 18th	25	13	22	
	Sept. 21st	20	26	14	
9	June 18th	26	34	0	
	Sept. 21st	23	37	0	
10	June 21st	18	19	23	
	Sept. 21st	27	21	12	
11	June 21st	17	43	0	
	Sept. 21st	10	41	9	
12	June 22nd	2	15	43	
	Sept. 25th	1	19	40	
13	June 22nd	12	9	39	Steam Jet
	Sept. 25th	13	10	37	
14	June 25th	18	35	7	(Proctor Stoker Patent Fire Bars)
	Sept. 26th	20	35	5	
15	June 27th	17	42	1	
	Sept. 28th	27	9	24	
16	June 27th	2	30	28	Steam Jet
	Sept. 28th	4	48	8	
17	June 27th	18	11	31	
	Sept. 27th	22	30	8	
18	June 27th	7	24	29	
19	Sept. 24th	3	13	44	
20	Sept. 24th	15	28	17	
21	Sept. 26th	15	39	6	

Swimming and Public Baths.— In my official capacity I have frequently been urged to put before the Sanitary Authority the importance of building swimming and public baths for the town. As far as I can gauge the

feeling of the people there is certainly a large number who would consider it a boon if they were provided. Many people go to Leeds and Bradford for the purpose of swimming and bathing, especially in hot weather, and it is reasonable to conclude a much larger number would make use of baths if they had them in the town. The supply would create the demand. I have heard it objected that baths would not pay, but as the Council is not a trading company that would probably not have much weight. The same objection could be taken to the purchase and support of the Park. The question of expense has of course to be considered, but is altogether a matter of amount. Figures could be obtained from other towns the size of Pudsey that would be a guide to determine whether the cost of, what undoubtedly would greatly benefit the place, would be prohibitive or not. I have also heard this objection, only from a few, that they never have had a bath in their lives, and did excellently well without it. It was easy to see their objection was founded on fact.

Sanitary Staff.—I regret the resignation of Mr. T. Stake, assistant sanitary inspector, who has been promoted to Manchester. Mr. Stake was an efficient, hard-working official, and took a keen interest in sanitary work.

Cholera Survey.—Dr. Horne, Local Government Board Inspector, made a careful sanitary inspection of the town in July, 1893. In my last year's report I gave a summary of his recommendations, and repeat them again, as they form a valuable guide, coming as they do from an unbiassed sanitary expert.

1.—The sewerage and draining of the district should be done as quickly as possible.

2.—The Sanitary Authority should take into immediate consideration what method for the disposal of excrement and refuse will be best adapted for the circumstances of their district, in place of the large privy middens, which in their present form are a source of nuisance of the gravest kind, and cannot fail to be injurious to health.

Where possible water closets may be used with advantage.

All privies at present causing nuisance should be at once dealt with.

3.—The contents of the privy middens should be removed at intervals of not longer than a fortnight,

4.—Regular house to house inspection should be made with a view to detecting defects in house drains. Such defects should be at once dealt with.

Yards and open spaces about houses should be properly levelled and paved, so as to secure efficient drainage and cleanliness.

5.—Dwellings, which from dampness, want of ventilation, dilapidation, or other structural defects are unfit for habitation, should be placed in proper repair, or permanently closed.

Special attention should be given to dampness in foundations and walls.

6.—The Bye-laws should be enforced.

7.—The Notification Act should be adopted.

WM. LOVELL HUNTER,

Medical Officer of Health.

METEOROLOGY FOR 1894.

Observations taken at 9 a.m. (500 feet above sea-level.)

THERMOMETER IN SHADE.										DEGREES OF HUMIDITY. (Saturation = 100)																
BAROMETER.										Daily Means.																
High- est.	Day of Month.	Low- est.	Day of Month.	Range.	Max.	Min.	Mean range.	Dry bulb.	High- est.	Day of Month.	Low- est.	Day of Month.	Range.	Max.	Min.	Mean range.	Dry bulb.	High- est.	Day of Month.	Low- est.	Day of Month.	Range.	Max.	Min.	Mean range.	Dry bulb.
1894.																										
Jan. ...	30.20	28.86	31st	1.34	29.34	48°	27th and 28th	6°	6th	42°	39°	32°	7°	35°	100	14th	72	1st	28	85						
Feb ...	30.07	28.76	12th	1.31	29.47	52°	8th	17°	19th	35°	41°	34°	7°	37°	100	16th	72	13th	28	84						
March	30.05	28.52	13th	1.53	29.47	60°	28th	32°	13th and 17th	28°	48°	37°	11°	41°	93	22nd and 9th	65	19th	28	81						
April	29.82	30.00	17th	1.82	29.45	65°	12th	40°	6th and 14th	25°	53°	41°	12°	45°	100	8th	58	9th	42	81						
May...	30.00	29.23	28th	0.77	29.51	64°	26th	33°	21st	31°	52°	41°	11°	47°	100	14th	49	25th	51	72						
June	30.03	29.23	11th	0.80	29.57	73°	30th	41°	1st and 7th	32°	59°	49°	10°	56°	100	4th and 5th	50	30th	50	76						
July...	29.95	28.92	12th	1.03	29.48	76°	1st and 2nd	49°	12th and 14th	27°	65°	53°	12°	59°	100	23rd and 25th	42	5th	58	78						
Aug.	29.80	28.95	15th	0.95	29.45	65°	1st	46°	17th and 22nd	19°	60°	51°	9°	56°	100	6th and 20th	61	13th	39	80						
Sept.	30.04	29.45	25th	0.59	29.76	61°	2nd	40°	28th	21°	55°	47°	8°	52°	100	25th	63	3rd	37	81						
Oct ...	30.07	28.43	24th	1.64	29.49	58°	13th	33°	22nd and 23rd	25°	50°	43°	7°	46°	100	24th	72	14th	28	88						
Nov...	30.06	28.60	14th	0.46	29.46	58°	1st and 2nd	37°	21st and 28th	21°	49°	42°	7°	45°	93	20th	75	30th	18	86						
Dec...	30.11	28.48	22nd	1.63	29.48	51°	14th	28°	31st	23°	43°	37°	6°	40°	100	24th	71	22nd	29	85						

Rainfall—1894.

Month.	Inches.
JANUARY	2.66
FEBRUARY	5.51
MARCH... ..	2.37
APRIL	2.53
MAY	1.7
JUNE	2.4
JULY	2.9
AUGUST	3.0
SEPTEMBER ... ..	.9
OCTOBER	4.49
NOVEMBER	1.69
DECEMBER	1.84
TOTAL FOR 1894	31.99

Four Feet Ground Temperature—1894.

Dates.	Degrees Fahrenheit.	Dates.	Degrees Fahrenheit.
January ... 1st to 4th	41.2	July ... 1st to 4th	50
„ ... 5th to 7th	41	„ ... 5th to 31st	51
„ ... 8th	39 2	August ... 1st to 31st	51
„ ... 9th to 23rd	41.2	September 1st to 27th	51
„ ...24th to 26th	41	„ ...28th to 30th	50.5
„ ...27th to 31st	41.2	October ... 1st to 15th	50
February ... 2nd to 13th	41.2	„ ...16th to 18th	49.5
„ ...14th to 28th	41	„ ...19th to 22nd	49
March ... 1st to 31st	41	„ ...23rd to 28th	48
April ... 1st to 7th	41	„ ...29th to 31st	47
„ ... 8th to 30th	41.2	November 1st to 18th	48
May .. 1st to 6th	41.2	„ ...18th to 20th	47.5
„ ... 7th to 16th	41.5	„ ...21st to 24th	47
„ ...17th to 31st	42.5	„ ...25th to 27th	46.5
June ... 1st to 8th	44.5	„ ...28th to 30th	46
„ ... 9th to 19th	46.5	December 1st to 27th	45
„ ...20th to 30th	48	„ ...28th to 31st	44

Meteorology Summary for Year

	Maximum.	Minimum.	Mean.
Barometer ...	30.20	28.43	29.49
Thermometer ...	76°	6°	47.2
Humidity ...	100 degrees	49 degrees	81 degrees

PUDSEY URBAN DISTRICT COUNCIL.

INSPECTOR OF NUISANCES

ANNUAL REPORT,

1894.

TO THE MEDICAL OFFICER OF HEALTH.

DEAR SIR,

I have the pleasure of submitting to you my Annual Report for 1894.

Nuisances and Sanitary Defects.

1313 Nuisances and Sanitary Defects have been recorded in the "Journal of Inspector of Nuisances" during the year.

999 Nuisances and Defects have been abated.

Complaints of Nuisances.

35 Complaints of Nuisances have been registered during the year. These have been investigated and action has been taken where necessary.

Correspondence.

Legal Notices 92

Preliminary Notices 139

Letters... 315

As a result of taking over the Six Nightsoil Districts the Correspondence is greatly reduced.

Summary Shewing Results of Correspondence.

Nuisances Abated by Legal Notice 89

By Arrangement and Preliminary Notice... 910

Number of Inspections made During the Year.

No. of Houses, Premises, &c., Inspected...	379
Re-inspections, Works in Progress	1997
Inspection of Cowsheds	136
do do Slaughter-houses	23
do do Lodging-houses	13
do do Markets, Food	70
	<hr/>
	2618
	<hr/>

Cowsheds.

The condition of the Cowsheds has been improved, cleansing and lighting being better attended to.

3 New Cowsheds have been built to replace old ones.

Common Lodging Houses.

The Common Lodging-houses have as a rule been kept in good order, with the exception of one case which was brought under the notice of the Sanitary Committee.

Slaughter Houses.

These have been from time to time inspected and found to be kept in cleanly condition.

House Drainage.

4555 Feet of House Drains have been laid, chiefly in place of old rubble drains which have been dug out.

163 Houses have been re-drained with sanitary tubes of 4in. and 6in. diameter.

174 House drains trapped.

129 Sink pipes disconnected.

35 Systems of drainage have been ventilated.

207 Drains cleansed.

Privy Accommodation.

130 Houses have been provided with additional privy accommodation.

107 New Privies have been built in place of old ones which have been condemned and pulled down,

105 have been altered according to Model Plan approved by the Board.

61 New Ashpits have been built in the place of old ones which have been pulled down, and the soil contiguous with the bottom which was found to be impregnated with foul matter removed.

Summary of General Nuisances.

Houses and Premises cleansed	...	39
Accumulations removed	... ..	61
Animals removed	... ..	13
Cases of overcrowding abated	...	8

Collection and Disposal of Night-Soil.

For the purpose of the collection of night-soil and house refuse the town is divided into 12 Districts, which are let annually by contract to the farmers in and about the District who dispose of the night-soil on the land. The Contracts provide that the privies and ashpits shall be cleansed once a month, and forthwith on receiving notice from the Inspector of Nuisances.

At the termination of the Contracts last July the Board decided to collect and dispose of the night-soil in 6 of the Districts by day work, having been able to arrange for a tip at each side of the Town. This experiment has been most satisfactory as the following figures will show :—

Lowest Tenders and Estimates received for the six		
Districts with Tip	1 year.	half year.
	£245	£122 10 0
Actual cost of the Six Districts for first		
half of year ending December 31st.		£93 11 3
		<hr/>
Saving to the Board		£28 18 9
		<hr/>

83 Ashpits have been concreted, cemented, and furnished with proper doors and coverings.

Wet Ashpits.

Although considerable improvement has been effected in the District in this respect by the reconstructing and covering of a great many of the old open ashpits, by issuing notices to occupiers, and posting notices on the ashpit doors ; there is still much to be done in this direction, and this is a work that is particularly deserving of the Council's consideration as wet ashpits add considerably to the cost and Nuisance caused by the removal of the nightsoil; carts have often to be sent considerable distances to dispose of half a load of wet, and therefore very offensive matter, whereas if the middens were kept dry the carts could be despatched with a full load with much greater speed and considerably less nuisance and injury or danger to the Public Health.

I know of no work which will better repay the energy and diligence of the Sanitary Authority both as regards health and economy than the strictest supervision of this department. During the last half-year the Board have done six districts in the centre of the town by day work, and it is satisfactory to find that the work has been done more regularly and efficiently and at reduced cost.

House Drain Regulations.

In view of the new main Sewerage of the district, and what is in my opinion a matter of equal, if not greater importance, namely :—The connecting of House drains with the newly completed Public Sewers, I beg to call your special attention to some of the more important points to be watched in bringing this work to a truly economical and satisfactory issue.

Respecting the above named matter I beg to quote from the suggestions by Sir Robert Rawlinson, C.B., Chief Engineer to the Local Government Board, who says :—“The safety and comfort of the inhabitants will depend more upon the proper management and perfect construction of house drains, water-closets and sinks, than upon the main sewers; but in many cases the Local Authorities after having carefully constructed main sewers have paid insufficient attention to house drains, the results being great discomfort, injury to health, and discontent.

“ Builders are, however frequently permitted to execute “works of private drainage without any supervision, which “leads to mistakes and mischief, and if the house is subsequently drained in a proper manner to much extra cost.”

“The proper junction of the house drains with the sewers “should be imperative, and house drains should always be “executed in accordance with a sanctioned plan. The Local “Authority insisting (as far as practicable) upon every house “drain being designed, constructed, and carried to the main “sewers under the supervision of their surveyor.

“To sewer a town, and then to leave house drains to “haphazard construction, is “simply little better than to waste “the Ratepayers money.”

“Comfort and means for health are only to be secured “by the best house drainage, and the best house drainage “will not be accomplished by builders working under no “responsibility.”

That is to say, that builders should be responsible to the Local Authority who should give them a clear and definite statement as to how they should execute the house drainage within the area of their District.

LAW.

The Law relating to house drains is as follows:—Section 157 of the Public Health Act, 1875, empowers Local Authorities to make bye-laws for the drainage of buildings within their district. This section only applies to buildings built after the Local Government Acts came into force, but is extended to mean all buildings whether built before or after the above named Acts by the Public Health Amendment Act, 1890, Section 23, so that the Local Authority have full power to make and hence enforce Byelaws for the drainage of buildings within their District whether such buildings are old or new.

Section 23 of the Public Health Act, 1875, makes it the duty of every Local Authority to enforce the drainage of every house within their District which is without drains sufficient and effectual for the proper drainage of the same ; the same section definitely states that the Local Authority may require such drains to be of such materials and of such size and laid with such fall, and at such level as on the report of their Surveyor may appear to them to be necessary.

Furthermore it has been decided, and upheld, and confirmed by the Lords Justices on appeal in the case Austin versus Lambeth Vestry that the Local Authority have the right of deciding what kind of materials shall be used. The Local Authority must also determine the size of the drains according to the case of Underwood versus Cotton.

A drain to be sufficient and effectual must fulfil the following requirements:—Firstly, it must convey the whole of the foul water and liquid filth together with watercloset refuse if required from the premises to the Public Sewer (or to a cesspool as the case may be) without allowing any of the above named foul water or liquid filth to stand in the drain, or leak into the soil contiguous therewith. I never have as yet seen a rubble drain, or as some people prefer to call them, a stone walled drain which would fulfil this first and very important requirement, for even if a rubble drain has sufficient fall to prevent sediment and foul matter from lodging, which is seldom the case with a stonewalled drain, the stones themselves and the soil contiguous therewith becomes impregnated with foul matter which in the process of decomposition or putrefaction creates offensive gases and germs of disease which help to pollute the water we drink, and the air we breathe. I have no hesitation in saying that no rubble or stonewalled drain is sufficient or effectual for the drainage of any house within your district and furthermore that no pot or earthenware pipe drain is sufficient or effectual unless the joints are watertight and the pipes laid with sufficient fall throughout to convey all the filth from the premises they are intended to drain.

Secondly:—Before a drain can be said to be sufficient and effectual it must be so laid, constructed, trapped and ventilated as to effectually exclude the drain and sewer air from buildings and admit of the diffusion of the same at such a distance from dwellings as to cause the minimum amount of danger to health.

In order to secure the above-named condition all inlets to drains should be trapped and the drains should be disconnected from the sewers and ventilated in manner described in the diagrams I have prepared for your inspection and approval.

Where house drains fulfil the above named conditions it is the duty of the Local Authority (providing such drains are within 100 feet from the Public Sewer) to connect the said drain or drains with the newly completed main sewers and defray the expenses of such connections.—See Public Health Act 1875, Section 24.

Where house drains do not comply with the above named conditions the houses are insufficiently and ineffectually drained, and it is the duty of the Local Authority to serve notice upon the owners of such houses to drain the same with such materials, of such size, and in such manner as may appear to you on the report of your Surveyer to be necessary.—See Public Health Act, 1875, Section 23.

Section 21st, Public Health Act, 1875, provides that owners and occupiers of premises shall be entitled to cause their drains to empty into the sewers of the Local Authority on condition of giving such notice as may be required by that Local Authority of its intentions to do so, and of complying with the regulations of that Local Authority in respect of the mode in which the communication between such drains and the sewers are to be made, and subject to the control of any person who may be appointed by that Authority to superintend the making of such communications, and any person causing a drain to empty into a sewer of a Local Authority without complying with the provisions of this section shall be liable to a penalty not exceeding Twenty Pounds.

Having I hope made clear the fact of your right and power as the Sanitary Authority to make and enforce drainage regulations within your District, I now beg to proceed to lay before you my Report on the main points of the Regulations I have drawn up for your consideration.

Regulations.

CLAUSE 1.—The first clause dealing with giving of Notice, &c., is common to all Sanitary Authorities throughout the country, therefore I need not waste your time in reporting thereon.

CLAUSE 2—SIZE OF PIPES.—The second dealing with the size of pipes is a very important one, and the real question at issue is this, as to whether the size and to some extent the cost of house drains shall be decided by your

Surveyor, or by the numerous builders doing the work, who have been capable, some of them, in quite recent years of putting in a nine inch pipe (costing 1/6 per yard) to carry off the water from a three inch fall spout, which would have been amply provided for with a four inch pipe costing eightpence per yard

There is no more reason or economy in a building putting in a pipe twice as large as what it ought to be, and charging the extra cost than there would be in your tailor or shoemaker making your suits or boots twice the size required and charging for the extra material.

Two cases, among many others, have come under my notice where owners have been made to pay for twelve inch pipes, costing two and sixpence per yard, and nine inch pipes costing one and sixpence per yard, where four inch pipes at eightpence per yard would have done the work much more effectually. In these two cases about forty-one pounds had been expended on the work, which in a comparatively short time had proved to be so defective as to create serious nuisances, and the whole of the work had to be done over again; in one case the sewage was actually running over the house floors, and in the other a case of Typhoid Fever had broken out, and on examining the drains which had cost thirty pounds some two or three years ago, I found that the sewage was running into the well which supplied drinking water for the cottages. The fever case was taken to the Hospital to put a bit more on to the rates, and the person owning the property had the large and costly drain to rip up and relay at additional cost.

In 1892, 9,534 feet of house drains were laid under the supervision of your Sanitary Department. If these drains had been nine inches instead of six the additional cost to the property owners on whose premises these drains have been laid would have been seventy-nine pounds eight shillings, so I should estimate that by regulating the size of the pipes to be used in the future several hundred pounds of ratepayers' money would be saved.

Pipes with Water-Tight Composition Joints.

CLAUSE 3.—Pipes.—My reason for recommending the class of pipes specified is that I am convinced that it is next to an impossibility to secure a perfectly tight joint with

ordinary pipes, from the fact that builders seldom joint the under side of the pipes, and even if they do owing to the water which often stands in the trench, or which may be poured down the drains, the joints are washed away before the cement has time to set.

Secondly, this joint is only put on the best sample of pipes, so that you not only secure a good joint but also a good pipe.

Thirdly, because I have reasons which convince me of the fact that by adopting this class of pipe the Board would not only be protecting the Public Health, but would also in the end, be protecting the public purse.

All experience points to the fact that good drainage is in the end cheapest, and that bad drainage is not only a constant source of nuisance, but of expence.

CLAUSE 4.—TRADESMEN TO BE APPROVED.—The reason that I recommend this clause is that work done under no responsibility is not likely to be well done, and on account of a mistaken idea which is prevalent in the district, namely; **that anyone, no matter what his trade or knowledge of drainage work may be, is capable of laying drains.** If it was not a wholesome thing to make the builder responsible for his work and to somewhat indemnify the property owner against consequences over which he has no control, the Public Health (London) Act 1891, would not impose such responsibility upon builders, or would, as was the case the other day at the Worship Street Police Court, where Mr Bushby fined a workman forty shillings for putting in a broken drain pipe.

I still adhere to my opinion that drainage work should not be allowed to be done except by builders who would engage practical and experienced men, and also engage that the work should be done in accordance with the Byelaws of the Board.

Sewerage.

The internal drainage of the Town is being rapidly proceeded with. The sewers consist of earthenware pipes with Hassell's patent safety points.

The sizes of the sewers range from 9 inches to 18 inches diameter according to circumstances.

The manholes are placed from 80 to 100 yards apart and at all points of change in line or gradient.

Sufficiency of Size of Sewers.

As some doubt has been expressed as to the sewers being large enough, a word or two on the subject will not be out of place in this Report and let me say to begin with that I have every confidence in expressing it as my opinion that the main sewers in the Town are sufficient for the purposes for which they are intended, namely, that of carrying off the whole of the sewage from the Districts they are intended to drain, along with the roof and surface water from the rear of Premises, together with the surface water from minor streets and courts lying between the principal Highways.

Nine inch Sewer in Radcliffe Lane and Chapeltown.

The following calculations respecting the nine inch sewer in Radcliffe Lane (about which perhaps most doubt as to the sufficiency of capacity has been expressed) may be interesting.

Minimum fall low end.	Velocity in feet per minute.	Discharge in gallons per minute.	Discharge in gallons per 24 hours.	Maximum Drainage Area.	One inch of Rainfall.
1 in 21	536.8 ft.	1006.5	1,449,360	44 acres about	1,000,000 gallons

These calculations are based on the assumption that the sewer is running half full, and from them it will appear that the sewer will discharge one inch of rainfall over the whole of the surface of the maximum drainage area in twenty-four hours together with the sewerage from a population of 22,468 at 20 gallons per head per day. This is more than sufficient for all purposes.

Increased Cost of Large Sewers.

It is a fact, probably not sufficiently recognised, that to increase the size of sewers increases the cost in very rapid proportion, therefore to put in larger sewers than necessary is to waste money.

Particular Local Reasons for Adopting Comparatively Small Sewers.

The Town of Pudsey stands on a hill, and naturally slopes from the centre in all directions. The principal Highways along which the sewers are carried radiate from the centre of the Town.

The natural inference from this is that the Town is divided into many small drainage areas, instead of one or two large ones, therefore many Towns with much smaller area and Population, but differently formed and situated, may require larger Sewers. In some matters Towns may do well to copy from their neighbours, but in Sewerage such Local influence as area, gradients, Population, nature of sewage and Local Trades, should be the prime considerations in laying down a system of New Sewers.

Separate System.

The System of Sewerage in Pudsey is I think wisely and necessarily that which is known as the separate System or partially so, that is to say, that the surface water from the main Highways is excluded from the new sewers.

The wisdom and economy of this system will appear from the following considerations.

1.—In hilly districts the surface water is carried off very rapidly and often with violence many tons of ashes and road sand sometimes being carried away or swept into the Sewers by a single shower of rain.

To go to the increased expense of constructing a system of deep Sewers of sufficient capacity for carrying and delivering at the Sewerage Works such large quantities of Water and Sand is neither necessary or desirable, seeing that the District is provided with sufficient outlets for surface water at all points of the compass.

III Effects of Combined System with Large Sewers.

1.—Liability of surcharging and bursting of Sewers in the lower parts of the Town.

2.—Silting up of the Sewers on the flatter gradients.

3.—Nuisance from the deposit on the invert of the Sewers becoming impregnated with organic matter, and causing nuisance by emitting offensive and dangerous gases.

4.—Deposit of silt and sand on the Sewers necessitates the costly process of cleansing the Sewers by hand.

5.—Considerable increase of sludge at the Sewerage Works adding considerably to the cost of treatment, and greatly reducing the manual value of the sludge.

Flushing, &c., of Sewers.

However good a system of Sewers may be it is a great mistake to assume that when they are once laid down that they need no further attention.

Examinations, flushing and cleansing should be systematically and periodically attended to, and points requiring special attention noted. In flushing sewers two things are necessary; 1, a sufficient quantity of water, the quantity of which will vary in the same proportion as the respective size of the Sewers to be flushed.

1.—A sufficient velocity to carry forward the solids which may be deposited in the Sewers. Two conclusions come from the facts just mentioned. 1.—That it is easier and cheaper to flush a small sewer than a large one.

2.—That less water will be required to remove a given quantity or volume of light matter than the same quantity of heavy matter, therefore by constructing small sewers sufficient for sewerage matters and excluding the surface water and road sand, reduces not only the cost of construction but also the cost of maintenance and conduces to the efficiency so long as the system remains in use.

I should recommend that a proper Flushing Van be obtained for the purpose of flushing the Sewers as such a contrivance can be taken to any part of the District requiring special attention.

Old Sewers to be Used for Surface Water. Points to be Attended to in Order to Secure Efficiency.

Having spoken as to the adaptability of the separate system to the District, I now wish to point out a few very important points to be attended to in carrying out and completing the work of making connections, maintaining, repairing, making good and utilising of the old Sewers.

Present Condition of Old Sewers.

In cutting into the Old Sewers in various parts of the Town, I have found that some attention is much required from the fact that many of them contain several inches and in some cases nearly a foot of sediment.

This could be removed at small cost and for the sake of the health of the Town and to maintain the Sewers in a state of efficiency should be proceeded with at once and done at the same time as the house drains are being disconnected from the Old Sewers and connected to the new ones.

Inlets to Old Drains.

A good many of the old catchpits are very primitive, offensive and very difficult to cleanse on account of their faulty construction.

The worst of these might be replaced by proper gullies at little cost and great advantage.

Pouring Slops down Street Grates.

Probably one of the most serious difficulties in making the separate system complete and efficient, will arise from the fact that the people have become so addicted to throwing dirty water and slops down the Street grates and into the channels at the Road Side, that unless some very stringent steps are taken to prevent and stop this abominable, unsightly, and disgusting practice, the thoroughness and efficiency of the Scheme cannot be complete.

Street Sweeping and Cleaning.

In order to make and keep the old drains in as clean and efficient condition as possible, the Streets where there is most traffic, should be more frequently and thoroughly swept, cleansed, and watered especially during the Summer months.

This I believe would meet with the appreciation of the Ratepayers generally, as I have frequently had complaints both as regards dust from want of watering and the large amount of horse droppings which have accumulated on the Highways in the more thickly populated part of the Town and on the main roads.

More minute and constant attention will also have to be paid to the cleansing of Courts and minor or Private Streets to prevent the filth washing down into the Old Surface drains.

Disconnecting Old Drains.

Great care must be taken in disconnecting drains from the Old Sewers and connecting to the new ones, to see that the Old Sewers are made good in a proper and substantial manner.

Supervision of House Drains.

The strictest supervision of the Construction of all house drains should be insisted on in order to prevent confusion of the two systems by connecting Sewers and foul drains to the old or surface water drains, and surface water drains to the deep Sewers where the same may be avoided.

It will be much easier and cheaper to connect to the old drains in most cases, and unless the strictest supervision is carried out, builders and others will smuggle their Sewers and Drains into the old Sewers. This may be avoided by the Council insisting on all house drains being connected up to the new Sewers as soon as they are completed and an outlet provided.

If a sufficiently numerous and Competent Staff is not engaged in the supervision of the above named work, great injury and considerable annoyance and great waste to

the Ratepayers, and especially to the Property Owners money, must be the result. I place this on record as a warning against incompetent and insufficient drain inspection and the serious and aggravated results occurring therefrom.

R. W. CASS, Cert. Assoc., San. Inst.,
Inspector of Nuisances.



REASONS FOR NOT EXACTING PAYMENT FROM PATIENTS IN THE ISOLATION HOSPITAL.

1.—The object of a Fever Hospital is to prevent the spread of Infectious Diseases.

2.—No attempts to prevent the spreading of Infectious Diseases can be thorough without complete separation of those who are sick from those who are well, and this can, as a general rule, be only done reliably by proper isolation in Hospital, and therefore the persons removed to hospitals deserve the thanks of the whole community.

3.—A hospital is built and maintained at great expense, and, to get a return for this outlay, the increasing desire of the public to avail themselves of the benefits of it should be encouraged by the Sanitary Authority to the utmost.

4.—Making a charge for maintenance, without doubt, deters a number of persons from taking advantage of the hospital, and so the object of the hospital is frustrated.

5.—The hospital is maintained, in the first instance, for the good of the whole public, and not merely for the patients who go in, although the latter share in the advantages also, as statistics show that the proportion of recoveries amongst cases treated in hospital is considerably greater than amongst those treated at home.

6.—The use of the hospital is necessary for all classes of the community, rich and poor alike. It is not a refuge for the poor, nor is it a charitable institution.

7.—The hospital is built and supported by the ratepayers, and every ratepayer is entitled to the accommodation which he, jointly with his brother ratepayers, provides for their mutual benefit, and it is unjust to make a charge to those ratepayers for admission, more especially to the richer people who have contributed more in rates to the support of the hospital than their poorer brethren. In other words the payment of rates should carry with it the right to use the public hospital.

8.—Other institutions maintained for the benefit of the whole community, such as the removal of house refuse, sewerage, free schools &c., may be instanced where the charge is borne by the whole community.

9.—When a charge is made, experience shows that only a small fraction of the hospital expenses is recoverable.

10.—The great majority of places make no charge, and the number of places where a charge is made is lessening every day.

11.—Sending a bill for maintainance and then remitting the charges "has a flavour of pauperism which people do not like." It has also an element of uncertainty about it that is distinctly cruel.

12.—The free system is a wise one, in the interests both of the public at large, and the ratepayer.

W. L. HUNTER. D.PH.

MEDICAL OFFICER OF HEALTH.

PUDSEY,

May 15th, 1894.

